

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
7 July 2005 (07.07.2005)

PCT

(10) International Publication Number  
**WO 2005/061319 A1**

(51) International Patent Classification<sup>7</sup>: B63B 3/38 (74) Agent: EVENS, Paul, Jonathan; Maguire Boss, 5 Crown Street, St. Ives, Cambridgeshire PE27 5EB (GB).

(21) International Application Number: PCT/GB2004/005432 (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SI, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 20 December 2004 (20.12.2004) (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SI, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(25) Filing Language: English (26) Publication Language: English

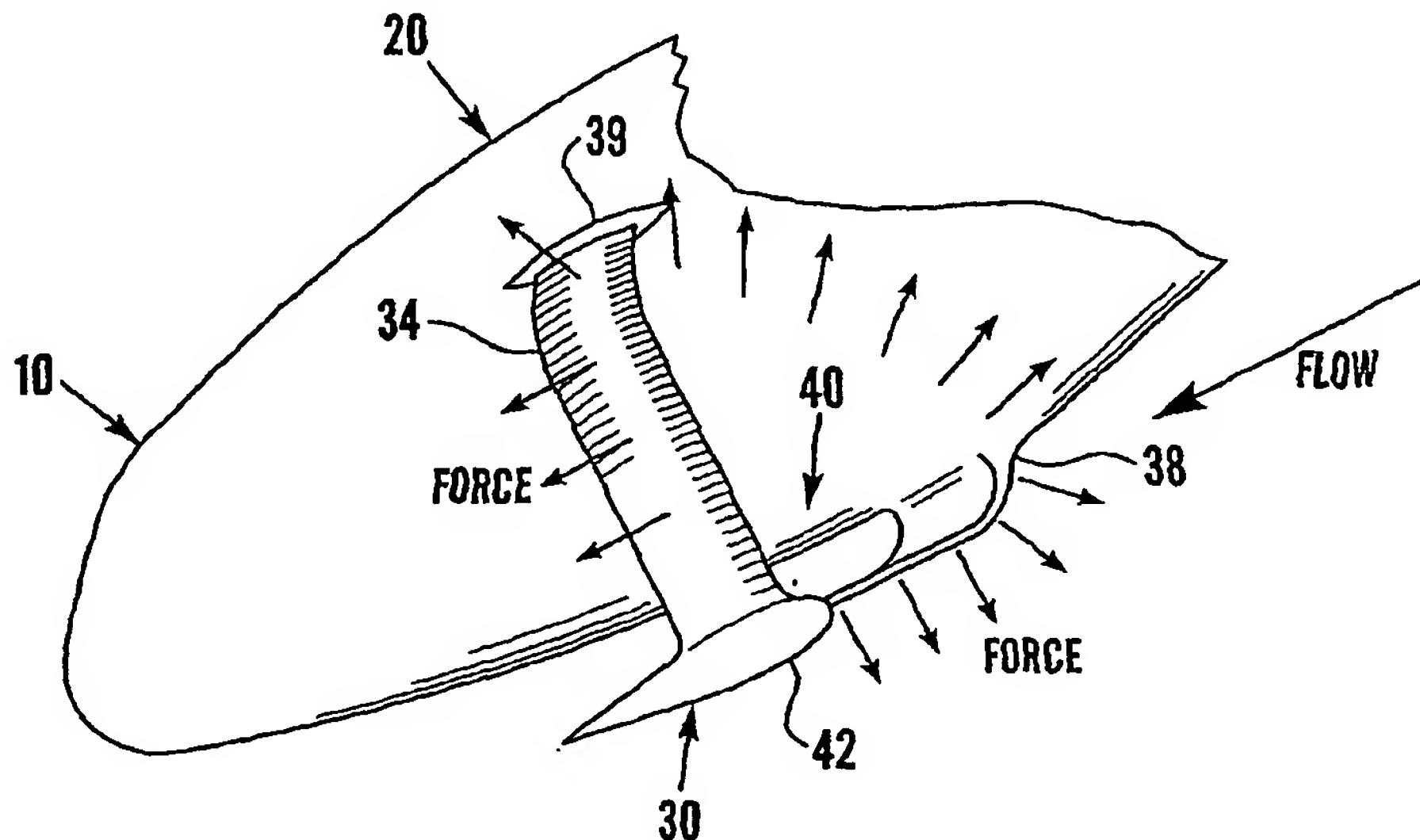
(30) Priority Data: 0329802.3 23 December 2003 (23.12.2003) GB 0401082.3 19 January 2004 (19.01.2004) GB

(71) Applicant (for all designated States except US): McNAGHTEN, James [GB/GB]; Fernleigh Cottage, 3 Hills Avenue, Cambridge CB1 7UY (GB). (71) Applicant and (72) Inventor: HOWES, Jonathan, Sebastian [GB/GB]; 3 Chapel Cottages, Cowfold Road, Bolney, West Sussex RH17 5QU (GB).

*[Continued on next page]*

(54) Title: WATERBORNE VESSEL WITH LOOP KEEL

**WO 2005/061319 A1**



(57) Abstract: A vessel (10) for travelling on water comprises a hull means (20) and a keel (30) comprising a member (34) depending from the hull means, the member (34) comprising two limbs (44) each depending from a respective lateral side of the hull means (20), the two limbs (44) defining at least in part an enclosed flow path extending in a bow to stern direction, the enclosed flow path being configured to allow water incident on the vessel to flow over inner and outer surfaces of the limbs (44a, 44b). The limbs (44) each have a zero-lift surface which is angled to generate in use a component of hydrodynamic force directed away from the enclosed flow path when there is a net flow of water along the enclosed flow path.



**Published:**

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*